

## ABSTRACT

An improved system for monitoring non-coincident, non-stationary, process signals. The mean, variance, and length of a reference signal is defined by an automated system, followed by the identification of the leading and falling edges of a monitored signal and the length of the monitored signal. The monitored signal is compared to the reference signal, and the monitored signal is resampled in accordance with the reference signal. The reference signal is then correlated with the resampled monitored signal such that the reference signal and the resampled monitored signal are coincident in time with each other. The resampled monitored signal is then compared to the reference signal to determine whether the resampled monitored signal is within a set of predesignated operating conditions.